UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,617	09/29/2000	Robert Dunstan	042390.P9731	9612

7590 02/23/2005	EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 December 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-5 and 12-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5 and 12-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   It is hereby acknowledged that the following papers have been received and placed of

record in the file: Amendment (dated 12/9/04).

2.   Claims 1-5 and 12-23 are presented for examination.

3.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

Claim Rejections - 35 USC § 103

4.   Claims 1-5, 12, 14, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chrysanthakopoulos (U.S. Patent No. 6,446,214) in view of Jones (U.S. Patent No.

5,809,311).

5.   **Regarding claim 1**, Chrysanthakopoulos teaches a method for controlling a power state

of an autonomous subsystem ("intelligent" peripheral devices) [peripheral device is a subsystem

of a computer system; col. 3, lines 8-23] comprising the steps of:

       receiving from the subsystem a message (unsolicited request is a message) [col. 4, lines

1-5]; and

       setting the power state of the autonomous subsystem based on the message [col. 4, lines

9-16].

       Chrysanthakopoulos does not teach that the setting of the power state exclusive of a main

operating system.

Jones teaches a management controller (260) controls other subsystems (210, 220, 240) independent from operating system [col. 4, lines 44-49]. As such, one of ordinary skill in the art would have recognized that the controller capable of sending control signals exclusive of a main operating system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Chrysanthakopoulos and Jones because they both teach system for controlling power in a computer system. Jones' teaching of controlling other subsystem by the management controller independent from operating system would increase the flexibility of Chrysanthakopoulos' system by allowing the system to have an additional controller for controlling the power of subsystem which is not required to be tracked by the operating system. Furthermore, using the management controller taught by Jones would reduce the burden on the operating system.

6.   **Regarding claim 2**, Chrysanthakopoulos teaches the device is changed from an inactive state (power down state) to an active state (power up state) when activity resumes (the device is in normal operation state to perform activities) [col. 3, lines 17-19]. Therefore, Chrysanthakopoulos teaches the message is a full wakeup request as claimed.

7.   **Regarding claim 3**, Chrysanthakopoulos acknowledging a received autonomous subsystem message by "sends any requests to the peripheral device that are warranted by the power change" in response to the power state change request sent by the "intelligent" peripheral device [col. 4, lines 17-21].

8.   **Regarding claim 4**, Jones teaches a management controller (260) controls other subsystems (210, 220, 240) independent from operating system [col. 4, lines 44-49]. In

operation, Jones teaches the step of receiving from the subsystems message(s) indicating status

of the subsystem [col. 5, lines 5-8, 22-25]. Therefore, Jones teaches the claimed method step of

receiving from the subsystem a message without involvement of a main operating system.

9.   **Regarding claim 5,** Chrysanthakopoulos teaches that the power state of the autonomous

subsystem is set without involvement of a main operating system [col. 3, lines 8-14].

10.   **Regarding claim 12,** Chrysanthakopoulos teaches a storage medium having stored

thereon instructions [col. 3, lines 5-6] used to perform the following:

    receive input signals [col. 4, lines 3-5];

    communicate with an autonomous subsystem ("intelligent" peripheral device is a

subsystem of a computer system) [col. 3, lines 8-23; col. 4, lines 1-5 and 17-19];

    determine a desired power state for the autonomous subsystem based upon received input

signals and communications with the autonomous subsystem [col. 4, lines 9-16]; and

    communicate to the autonomous subsystem the desired power state [col. 4, lines 27-30

and 35-36].

    Chrysanthakopoulos does not teach that the determine a desired power state exclusive of

a main operating system.

    Jones teaches a management controller (260) controls other subsystems (210, 220, 240)

independent from operating system [col. 4, lines 44-49].

    It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Chrysanthakopoulos and Jones because they both teach

system for controlling power in a computer system. Jones' teaching of controlling other

subsystem by the management controller independent from operating system would increase the

flexibility of Chrysanthakopoulos' system by allowing the system to have an additional

controller for controlling the power of subsystem which is not required to be tracked by the

operating system. Furthermore, using the management controller taught by Jones would reduce

the burden on the operating system.

11.   **Regarding claim 14,** Chrysanthakopoulos teaches the autonomous subsystem

acknowledges a communication received (command that sets the peripheral device in the desired

power state) from the host [col. 4, lines 27-30 and 35-36] by changing its power state to the

desired power state [col. 4, lines 37-39].

12.   **Regarding claim 18,** Chrysanthakopoulos teaches an apparatus for controlling subsystem

power comprising:

    means for receiving input signals [col. 4, lines 3-5];

    means for communicating with an autonomous subsystem ("intelligent" peripheral device

is a subsystem of a computer system) [col. 3, lines 8-23; col. 4, lines 1-5 and 17-19];

    means for determining a desired power state for the autonomous subsystem based upon

received input signals and communications with the autonomous subsystem [col. 4, lines 9-16];

and

    means for communicating to the autonomous subsystem the desired power state [col. 4,

lines 27-30 and 35-36].

    Chrysanthakopoulos does not teach that the determine a desired power state

exclusive of a main operating system.

    Jones teaches a management controller (260) controls other subsystems (210, 220, 240)

independent from operating system [col. 4, lines 44-49].

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Chrysanthakopoulos and Jones because they both teach

system for controlling power in a computer system. Jones' teaching of controlling other

subsystem by the management controller independent from operating system would increase the

flexibility of Chrysanthakopoulos' system by allowing the system to have an additional

controller for controlling the power of subsystem which is not required to be tracked by the

operating system. Furthermore, using the management controller taught by Jones would reduce

the burden on the operating system.

13.   **Regarding claim 20**, Chrysanthakopoulos teaches the autonomous subsystem

acknowledges a communication (command that sets the "intelligent" peripheral device in the

desired power state) from the host [col. 4, lines 27-30 and 35-36] by changing its power state to

the desired power state [col. 4, lines 37-39].

14.   Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Chrysanthakopoulos (U.S. Patent No. 6,446,214) in view of Jones (U.S. Patent No. 5,809,311)

and further in view of Woog et al. [Woog] (U.S. Patent No. 5,630,144).

15.   **Regarding claim 13**, Chrysanthakopoulos, Jones and Woog do not explicitly teach the

input signal is a user initiated signal. Woog teaches a power management system comprising a

power control system (100) which detects input signal (activity) from input device for

controlling the power of a subsystem (monitor 120) accordingly [col. 6, lines 50-55]. However,

one of ordinary skill in the art would have readily recognized that the activity of the input device

is obviously initiated by a user (user moves a mouse or presses a key on a keyboard).

16.   **Regarding claim 19**, Chrysanthakopoulos, Jones and Woog do not explicitly teach the

input signal is a user initiated signal. Woog teaches a power management system comprising a

power control system (100) which detects input signal (activity) from input device for

controlling the power of a subsystem (monitor 120) accordingly [col. 6, lines 50-55]. However,

one of ordinary skill in the art would have readily recognized that the activity of the input device

is obviously initiated by a user (user moves a mouse or presses a key on a keyboard).

17.   Claims 15, 17 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Woog et al. [Woog] (U.S. Patent No. 5,630,144) in view of Chrysanthakopoulos (U.S. Patent

No. 6,446,214) further in view of Jones (U.S. Patent No. 5,809,311) and further in view of Arai

et al. [Arai] (U.S. Patent No. 5,978,922).

18.   **Regarding claim 15**, Woog teaches a system comprising:

        a power state controller [power control unit 150] having an input port [input port for

receiving input signal from keyboard controller 130], and output port [port for outputting signal

to monitor 120], and a communications channel [the line coupled between power control unit

150 and monitor 120];

        a user input [keyboard 140] coupled to the power state controller input port [keyboard

140 is coupled to power control unit 150 through the keyboard controller 130]; and

        a subsystem [monitor 120] coupled to the power state controller output port and the

power state controller communications channel [the monitor 120 is coupled to the power control

unit 150 for receiving signal outputted from the power control unit through the line connected

between the monitor and the power control unit].

Woog does not explicitly teach the subsystem (monitor 120) is an autonomous subsystem.

Chrysanthakopoulos teaches a system for controlling a power state of a subsystem, wherein the subsystem is an autonomous subsystem ("intelligent" peripheral devices, e.g. monitor 50) [col. 3, lines 8-23].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Woog by using the "intelligent" monitor taught by Chrysanthakopoulos, instead of Woog's monitor. The modification would increase the reliability of the system by reducing workload for the host system.

Both Woog and Chrysanthakopoulos do not teach the autonomous subsystem is controlled exclusive of a main operating system.

Jones teaches a management controller (260) controls other subsystems (210, 220, 240) independent from operating system [col. 4, lines 44-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos and Jones because they both teach system for controlling power in a computer system. Jones' teaching of controlling other subsystem by the management controller independent from operating system would increase the flexibility of Woog-Chrysanthakopoulos' system by allowing the system to have an additional controller for controlling the power of subsystem which is not required to be tracked by the operating system. Furthermore, using the management controller taught by Jones would reduce the burden on the operating system.

Woog, Chrysanthakopoulos and Jones do not teach the system including an energy monitor signal coupled to the power state controller.

Arai teaches a power management system comprising an energy monitor signal coupled to a power controller (controller 8) input port [signal inputted to the controller 8 to indicate the remaining power in a power source].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos-Jones and Arai because they both teach system for controlling power in a computer system. Arai's teaching of monitoring the power level of the power source would increase the flexibility of Woog-Chrysanthakopoulos-Jones' system by allowing the power control unit of Woog-Chrysanthakopoulos-Jones can also monitor power level of power source to ensure the power source has sufficient power for providing to the subsystem.

19.   **Regarding claim 17**, Woog-Chrysanthakopoulos-Jones do not teach the system including an energy monitor signal coupled to the power state controller for indicating the remaining battery capacity.

Arai teaches a power management system comprising an energy monitor signal coupled to a power controller (controller 8) input port [signal inputted to the controller 8 to indicate the remaining power in a power source] for indicating the remaining battery capacity [col. 5, lines 33-35].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos-Jones and Arai because it would increase the flexibility of the system by allowing the power control unit of Woog-

Chrysanthakopoulos-Jones can also monitor power level of power source to ensure the power

source has sufficient power for providing to the subsystem.

20.   **Regarding claim 21,** Woog teach a computer based system (computer 50), comprising:

an energy source (power main 160) [Fig. 1];

a power state controller (power control unit 150) [Fig. 1];

a subsystem (monitor 120) coupled to the power state controller [Fig. 1]; and

a communications link coupling the power state controller to the subsystem (the line

coupled between power control unit 150 and monitor 120) [Fig. 1].

Woog does not explicitly teach the subsystem (monitor 120) is an autonomous

subsystem.

Chrysanthakopoulos teaches a system for controlling a power state of a subsystem,

wherein the subsystem is an autonomous subsystem ("intelligent" peripheral devices, e.g.

monitor 50) [col. 3, lines 8-23].

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the teachings of Woog by using the "intelligent" monitor taught by

Chrysanthakopoulos, instead of Woog's monitor. The modification would increase the

reliability of the system by reducing workload for the host system.

Both Woog and Chrysanthakopoulos do not teach the autonomous subsystem is

controlled exclusive of a main operating system.

Jones teaches a management controller (260) controls other subsystems (210, 220, 240)

independent from operating system [col. 4, lines 44-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos and Jones because they both teach system for controlling power in a computer system. Jones' teaching of controlling other subsystem by the management controller independent from operating system would increase the flexibility of Woog-Chrysanthakopoulos' system by allowing the system to have an additional controller for controlling the power of subsystem which is not required to be tracked by the operating system. Furthermore, using the management controller taught by Jones would reduce the burden on the operating system.

Woog, Chrysanthakopoulos and Jones do not teach the system including an energy monitor coupled to the energy source and the power state controller, and providing a signal indicative of remaining energy capacity.

Arai teaches a power management system comprising a power controller which monitoring the remaining power in a power source [col. 5, lines 33-35]. Therefor, Arai obviously includes a monitoring device, either embedded within the power controller or coupled between the power source and the power controller, for monitoring the remaining power in a power source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos-Jones and Arai because they both teach system for controlling power in a computer system. Arai's teaching of monitoring the power level of the power source would increase the flexibility of Woog-Chrysanthakopoulos-Jones' system by allowing the power control unit of Woog-Chrysanthakopoulos-Jones can also

monitor power level of power source to ensure the power source has sufficient power for providing to the subsystem.

21.   **Regarding claim 22**, Woog, Chrysanthakopoulos, Jones and Arai do not explicitly disclose that the communications link coupling the power controller to the autonomous subsystem comprising a link having lower bandwidth than a system bus in the computer system. One of ordinary skill in the art would have readily recognized that it would have been obvious at the time of the invention to use the communications link coupling the power state controller to the autonomous subsystem comprising a link having lower bandwidth than a system bus in the computer system. One of ordinary skill in the art would have readily recognized that the amount of data exchanged on the link between the power state controller and the autonomous subsystem is far less than the amount of data exchanged on the main system bus. Therefore, using a low bandwidth communications link would reduce cost and power consumption of the computer system, which would be desirable in Woog.

22.   **Regarding claim 23**, Woog, Chrysanthakopoulos and Arai do not explicitly disclose that the communications link is operable without the use of a main operating system.

Jones teaches a management controller (260) controls other subsystems (through link 250) independent from operating system [col. 4, lines 44-49].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Woog-Chrysanthakopoulos-Arai and Jones because they both teach system for controlling power in a computer system. Jones' teaching of controlling other subsystem by the management controller independent from operating system would reduce

the burden on the operating system by allowing the power controller and the autonomous

subsystem communicate to each other independent from the operating system.

23.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Woog et al.

[Woog] (U.S. Patent No. 5,630,144) in view of Chrysanthakopoulos (U.S. Patent No. 6,446,214),

further in view of Jones (U.S. Patent No. 5,809,311), further in view of Arai et al. [Arai] (U.S.

Patent No. 5,978,922) as applied to claim 15 above, and further in view of Goff et al. [Goff]

(U.S. Patent No. 6,105,142).

24.   **Regarding claim 16**, Woog, Chrysanthakopoulos, Jones and Arai do not specifically

teach the user input is a switch to turn the system on and off.

    Goff teaches a key on a keyboard may emulate a power switch (power button).

    It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Woog-Chrysanthakopoulos-Jones-Arai and Goff because

they both teach system for controlling power in a computer system. Goff's teaching of turning

the system on and off directly from a keyboard would increase the convenience of the system by

allowing a key on Woog-Chrysanthakopoulos-Jones-Arai's keyboard may emulate a power

switch. Therefore, user input signal sent to Woog-Chrysanthakopoulos-Jones-Arai's power

controller would including power on/off signal.

Conclusion

25.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The

examiner can normally be reached on Monday and Wednesday-Friday: 9:30 AM - 8:00 PM,

EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Lynne H. Browne can be reached on (571) 272-3670.

Central TC telephone number is (571) 272-2100.

The fax number for the organization is (703) 872-9306.

26.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Thuan N. Du
February 19, 2005